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ABSTRACT

This thesis discusses learning and teaching in geography at the college level and presents one model of learning which could serve as the basis of an introductory college grography course. The author interprets and alters two learning models previously presented to the geographic community: one model, developed by William D. Pattison, involves learning and the other model, developed by David Harvey, deals with scientific explanation. The activity-oriented model, designed by the author, offers one mode of teaching as an example of an alternative approach to the lecture method or a content-oreinted classroom. The activity--a regional problem involving map use--is described first in an idealized situation and then in actual classroom situations. The author states that all evaluations of the learning activity, the learning model, the students, and the instructor must consider whether the student has been allowed to become the central focus of the learning situation. The conclusion proferred is that the quality of geography education, as well as of people's understanding of themselves, others, and the world, will improve if the student rather than the subject becomes the focus of education. The appendix includes an activity evaluation form and a selected bibliography. (Author/DDB)

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GEOGRAPHY AND GEOGRAPHIC EDUCATION IN THE INTRODUCTORY COLLEGE CLASSROOM

by

Robert Jack Czerniak

A THESIS

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CHAPTER 1

INTRODUCTION AND BACKGROUND

This thesis is based on two main thoughts; the first is education which takes place in the classroom is taught with some system of teaching in mind. It makes no difference what the arena of a classroom appears to be to the observer; one finds the instructor of that classroom teaching in an identifiable fashion. He will be using one or more models of learning.

The second thought is that the Geography taught in the schools of the United States from kindergarten through college level needs new and better learning models to introduce and develop the subject matter of Geography to those students who do not know the value of the subject. The "Geography" being taught in the schools of the United States today must be the responsibility of those who teach it.

This thesis presents one model of learning which could serve as the basis of an introductory Geography course. This model would be of the optimum learning value to students and instructors. In conjunction with the model, an activity is presented to demonstrate how the model operates in the classroom.

"The challenge for Geography is apparent. Many persons feel, both geographers and others, that Geography ought to play a more active role in the liberal education of American college students....If Geography is not offered and TAUGHT WELL in the two year (and four year) colleges, then a growing segment of the nation's college population will help perpetuate the geographic illiteracy for which Americans are justly known."[1] This statement is an omen for all who are concerned with the future of Geography in the United States. The challenge must be met. The question that faces today's geographers is, how is the challenge to be met. I believe that there has been a constant concern within the geographic community for quality geographic education in the four-year colleges and today in the two-year colleges. Although the concern for such education has never been a main focus for the majority of geographers, it can be seen today that an ever increasing number of geographers are recognizing the need for quality geographic education. This concern is aptly being expressed in professional presentations, standing committees on education, "travelling road shows," and journals of geography. One other form being taken to express this concern is the writing of dissertations and theses related to the development of classroom techniques to improve the quality and relevance of geographic education is the colleges and universities of the United States.

Being a geographer with a strong concern and recognition for quality geographic education, I am willing to accept the

challenge and need for Geography to have a more active and important role in the educational systems of the United States. This opinion is based on the assertion that Geography can help everyone who comes in contact with it to understand more fully the world in which we live and thereby to better understand themselves. However, as a person concerned with improving geographic education, I also accept the premise of a need for geographers as educators to make a critical analysis and evaluation of methods and materials of and for teaching Geography.[2] To stop at evaluation and analysis without searching for better methods to implement in the classroom would defeat the purpose of analysis and evaluation. It is therefore recognized that these two factors will always show a need for improvement in teaching techniques. Consequently, it will be of the utmost importance that new methods are tried and given serious consideration by all teachers.

The responsibility of the geographer as an educator is not only to help people become aware of the importance of Geography, that person must also be cognizant that methods of instruction being employed in the classroom are such that the learning experience of the students will be of the highest quality possible. This concern for quality learning experiences and Geography was placed into focus for me by Professor D.S. Knos of Clark University, Worcester, Massachusetts, in May, 1973. His description is for me the role of the "new Geographer-Educator".

Dr. Knos stated that the geographer-educator must be able to shed or restructure the old metaphors of Geography and adopt others that we, as geographers, may never have had the opportunity to deal with before. These metaphors, the discipline of Geography, should be used as tools for communication between students and professor. The classroom situation then becomes a geographer-educator with a group of students studying the world as they perceive it to be. The geographer-educator must be able to point out the Geography he has been trained to see, but he also must be the type of geographer who will recognize new forms of Geography that students may perceive which he does not immediately identify as Geography. In other words, the geographer must be able to communicate traditional Geography as well as the "Now Geography" of the 1970's to students whose minds are products of the 1970's. It is recognized that the above situation will make greater demands of the geographer in the classroom, field training, or research than he has ever felt before. These demands are part of the increasing need for geographers, especially as educators, to become more student-oriented particularly in the introductory Geography class.

The concern for quality geographic education is not a recent phenomenon. The concern can be traced to some of the earliest pioneers of Geography in the United States. At the beginning of the twentieth century, many prominent geographers were developing and contributing to high quality

education in Geography. Preston James in his book, All Possible Worlds, cites the following people for their contributions to Geography and geographic education.

Rollin Salisbury'
chairman of the Geography Department of University of Chicago
best teacher at school
freshman classes always full
master at stimulating and directing classroom situation
1913-started regular weekly meetings with staff and graduate students in which geographic questions and problems were discussed[4]

Ellen Churchill Semple
an enormously persuasive teacher
Many geographers were brought up on her ideas. We may question the ideas she taught but, we cannot question the fact that her methods kindled among her students an enthusiasm for the broad view of the earth as the home of man.[5]

Emory R. Johnson and J. Russell Smith
realized lack of Economic and Commercial Geography in the United States after making a cost-benefit study on alternate routes for the Isthmus Canal (Panama), J. Russell Smith (1919) was invited to establish curriculum in Geography at Columbia University. He wrote a book on Industrial and Commercial Geography which was a basic textbook for the next forty-five years.[6]

Mark Jefferson
"None of Davis' students did more to promote and improve the teaching of Geography in the United States than Mark Jefferson."
professor at Eastern Michigan
1901-1939
refused to omit regional geography from curriculum (in response to Committee of Ten recommendation that Geography should be studied systematically) He wanted these countries to seem real to grade-school pupils, real in landscape, life and institutions.[7]

These were some of the people who contributed very early to geographic education.

The concern or lack of it for quality geographic education was silenced by the tragedy known as the Second World War. Some reasons for this lack of concern were the withdrawing of manpower, both faculty and students from the classroom to serve in the Armed Forces. Geographers were used professionally during the war especially in the development of research and field techniques. I suppose that for many geographers the "war years" were the most exciting geographic learning experiences of their lives.

Another fact that influenced the development of geographic education in this country was the division of the geographic community into two groups. Although the community was and is divided in many ways, the division I am concerned with here is between those who recognized the need for quality geographic education in the classroom and others who felt that the major thrust of Geography should be in research and scholarly publication. This division has existed since Geography began in the United States. Passing judgment on the situation as to who was right and who was wrong is unnecessary. However, as a person who recognized a need for improvements in Geography classrooms even today, I will say the second group did underemphasize the need for quality geographic education. The underemphasis was so great that it was not until the mid-1950's that any real positive steps to the improvement of the classroom situation

occurred. "Most of these reform programs were geared to the pre-college teacher and student. However, they did not operate without effect upon college teachers and teaching."[8]

Since 1960, there have been numerous seminars, conferences, workshops, and meetings that have had two main goals. The first was to develop highly skilled, thoughtful, human beings to become quality geographic educators. The second goal and probably the more important of the two was to place the student at the center of the learning experience. Also, during this decade, the most prestigious professional geographic organization in the United States, the Association of American Geographers, has recognized the need not only for curriculum reform, but for a change in the methods that are used to teach these new curricula. To this aim they have organized the High School Geography Project, Committee on College Geography, and the Committee on Geographic Education to deal with these changes. Also, the National Council for Geographic Education, for a long time the poor sister of the Association of American Geographers, has gained new prominence as more geographers realize the importance of becoming student oriented geographers. The National Council for Geographic Education has developed its own committees and publications to deal with the problems and new developments in geographic education. Some of the National Council for Geographic Education publications are: National Council for Geographic Education Yearbooks, a series of booklets entitled, "Topics in Geography," National Council for

Geographic Education Handbook for Geography Teachers, and the monthly publication, The Journal of Geography.

Are the concerns of the geographic community to want quality geographic education justified? The answer is an emphatic YES! One of the basic reasons for the concern is the change which has occurred in the type of person attending our colleges and universities. "Not only must the system serve students of much more diverse background, but many students as well whose expectations of college are changing. In part, this results from the profound social changes underway in the United States (and the world).....Universities have found themselves directly in the path of this revolution, and have been the first to feel its effects."[9]

Not only have students changed, but the teaching opportunities for professors are relatively fewer in number than ten years ago. This fact of change is cited in the Association of American Geographer's Manpower. "The carry-over of manpower deficit from the 1960's eased the impact of the Ph.D. surplus in geography, and its full force will first be felt in the fall of 1973. If college teaching remains the preemptive career choice of geographers, the surplus number of geography Ph.D's expected to be granted in 1980 will nearly equal the total number granted in 1968."[10] One must also consider the role of the college and university administrator. He will be giving serious consideration to departments to make sure they are doing their job correctly and efficiently. This will include not only research

and publications, but proof of effective teaching and learning in the classroom. This statement is based on the assumption that the "job" of most departments in colleges and universities is to help and encourage students to become self-motivated learners.

"When one considers that most geographers in the United States are also educators and that sixty-seven per cent of the Ph.D. candidates graduating in 1971 wanted to pursue a teaching career at the university level, it would appear to be a natural aim for all of these people to want to be quality geographic educators."[11] In their own self-interest, they should want Geography to be taught by people who will allow the subject to "come alive" and mean something to students so that Geography would become more important as a subject to be studied in the United States.

Another factor to be considered is that which John Ball points out. "Many college (geography) teachers are also trainers of teachers, because their students frequently tend to teach the subject the way it was taught them. If interest in the quality of geography teaching in the elementary and secondary schools is genuine, then college teachers must be sensitive to the teaching models they use."[12]

Again we should return to the original statement of "the challenge for geography is apparent." The question that must be asked is, how is the challenge to be met? It appears evident to me that we (the geographic community as a whole) must continually strive for excellence not only in

the research and writing of geography, but at the same time we must recognize the need for an equal concern for the highest quality of geography being learned in the universities. If our concern for quality geographic education is real, we will constantly review, implement, and criticize the methods, materials, and people which we hold chiefly responsible for quality geographic education. In the college where does this responsibility begin? It begins on the first day of class with both teacher, students, and inparticular when the instructor meets his "new students" in the introductory geography course.

One of the most neglected parts of geographic education is the introductory geography course. There are many reasons for this neglect. It can be a lack of experience, lack of time, lack of concern, lack of money, an already too heavy teaching load, or a feeling that "I am above that sort of class now." The reasons don't really make that much difference. It is my contention that there is still a need for methods and techniques of introducing "geography" to people who fail to recognize where it can fit into their lives and why it is important to them. It is therefore my concern at this time to develop at least one method to introduce geography to people. Another reason for devoting my time and efforts to the development of the basis for an introductory geography course, is that my teaching experience at the front of the classroom has been limited to the introductory level classes in geography.

The thesis will be an attempt to develop a basis for an introductory Geography course based on a learning model that is of the optimum educational value to both students and instructors. The introductory course will be based on three main elements: 1) my perception of one learning model that will help students and instructors expedite the learning of Geography, 2) the constraints on this learning model that all instructors encounter while teaching a class. Also, the constraints and opportunities I recognized as an instructor at Wayne State University, Wayne County Community College, and the University of Colorado, 3) an example of the type of activity that will test the learning model and show why it is of value. These three elements put together will represent the type of learning situation I would hope to create in an introductory course.

A thesis on the development of a model for the basis of an introductory course in Geography is not a traditional geographic problem, neither is the development of an activity to show how the model will work in a classroom. Although the thesis is not focusing on a traditional geographic problem, it does focus on a problem that all geographers must face each time they teach an introductory course. The problem is how to help students learn about the world in which they live, themselves, other people, Geography, and to have them enjoy and remember what they have learned. It is the hope of the author that the learning model developed in the thesis will help to create such a situation.

FOOTNOTES

[1]Panel on Geography in the Two-Year Colleges. Geography in the Two Year Colleges, Publication no. 10 (Washington, D.C.: Association of American Geographers, 1970), p. 1.

[2]An early volume on evaluation in Geography courses can be found in: J. Thomas Hastings, James L. Wardrop, and Dennis Gooler. Evaluating Geography Courses, Technical Paper no. 3 (Washington, D.C.: Association of American Geographers, 1970).

[3]Dr. Knos is a Professor of Geography at Clark University, in Worcester, Massachusetts. He was an early leader in the "quantitative revolution" in Geography and is a leader in the movement for quality geographic education.

[4]Preston James, All Possible Worlds, (New York: Odyssey Press, 1972), pp. 385-389.

[5]Ibid., 377-381.

[6]Ibid., 382-383.

[7]Ibid., 367-371.

[8]John M. Ball, "Experiments in Teaching College Geography: A Report to the Profession," Professional Geographer, XXIV (Nov. 1973), p. 350.

[9]U.S. Department of Health, Education, and Welfare, Office of Education, Report on Higher Education, by Frank Newman, et al. Washington, D.C.: Government Printing Office, 1971, p. viii.

[10]John Fraser Hart, Manpower in Geography, Publication no. 11 (Washington, D.C.: Association of American Geographers, 1972), p.v.

[11]Ibid., 8.

[12]Ball, op. cit., 351.

CHAPTER 2

THE LEARNING MODEL

The idea of creating an introductory course is not new. It has been done by everyone who has ever taught such a course. There are many approaches open to a person who wishes to develop a new course. The most common and, I submit, the least difficult to develop is the lecture course, with exams given at appropriate times during the course to measure the amount of "learning" that has taken place. Many other types of course approaches are available to the instructor. Some of these can be found in The Journal of Geography or in special publications of the Association of American Geographers. Some examples of these materials are: "The Introductory Geography Course: Topical or Regional," "Toward Structuring Geography," and "New Approaches in Introductory Geography Courses."[13]

The type of approach I am using is based on a learning model. The learning model is an interpretation and alteration of two models previously presented to the geographic community. The first model is a conceptualization of the learning process developed by William D. Pattison.[14] The second is a model developed by David Harvey as an alternative route to scientific explanation.[15] The interpretation and alteration

of the two models into a new learning model provide a model that is both functional, exciting, and applicable to the Introductory Geography Course.

Pattison's model suggests that there are three basic parts to learning (Figure 1) "to know," "to do," and "to be." Traditional education has concentrated almost exclusively in the realms of the first two parts of the learning model. The third part of the learning model ("to be") has been almost totally forgotten.

Pattison defines his three parts of learning as follows: "To know" is the acquisition of knowledge; the proof of the acquisition would appear on exams given periodically. "To do" is the attainment of new skills, methods, or techniques in order to solve a problem, or gain a new insight. The last part of the model is admittedly the most difficult to define, but it is the most important of the three parts. "To be" has been defined as the self-image or affective side of learning. I believe the "to be" of learning is a person's feeling for himself as a person. The attitude may be positive or negative, but it will be reflected in everything the person is and does. The implication of the "to be" part of learning is that the more secure a person is within himself, the more willing he will be to risk new experiences to challenge himself. The instructor should, therefore, attempt in teaching to make the "to be" part of education a positive experience for the student because it may well be the most important part of learning.

PATTISON'S LEARNING MODEL

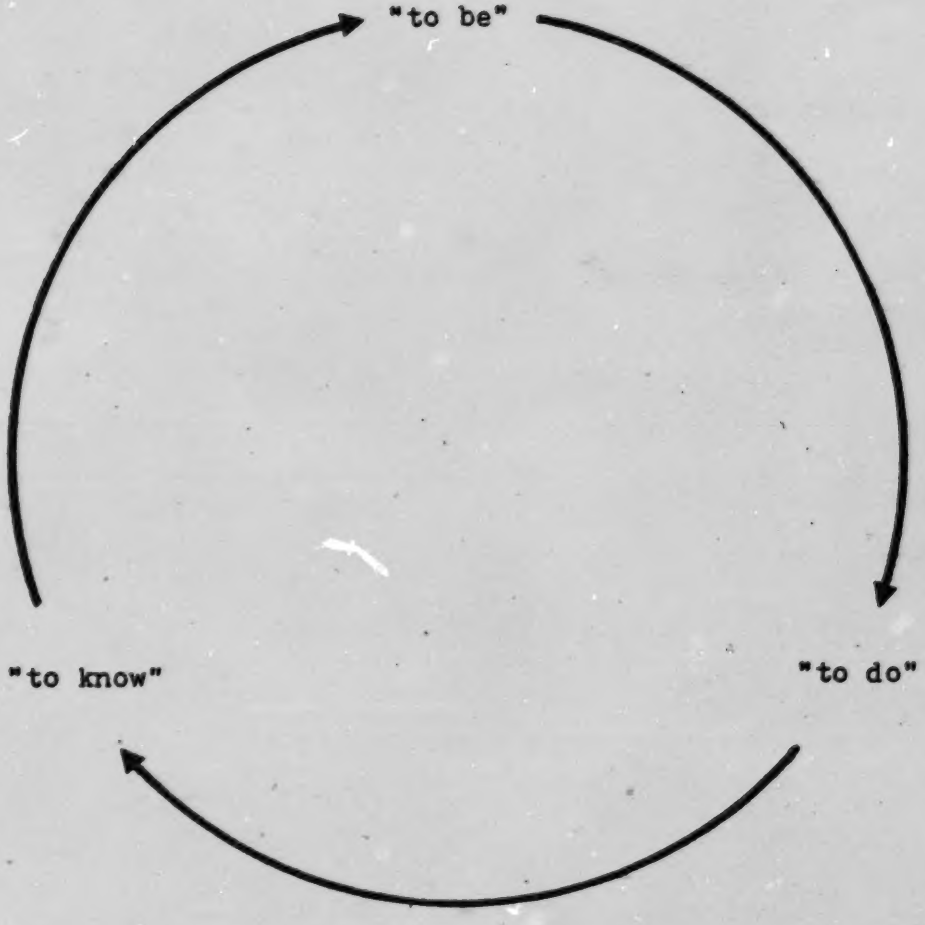


Fig. 1

I would like to change Pattison's definition of the "to know" part of his learning model for my learning model to the following statement.

> "The biblical verb yaddah, 'to know' signifies a unification of intellect, feeling, and action... Contemporary psychologists have the same understanding. Jerome Bruner's phase, the scientist and the poet do not live at antipodes. On the contrary, the artificial separation of these aspects or modes of knowing (exactly what traditional education has done) the false dichotomy between the cognitive and the affective domain can only cripple the development of the thought and feeling."[16]

"To know" in my model will mean an internalization and understanding of knowledge rather than the simple acquisition and short term memorization of a certain group of facts.

The other model to be employed will be David Harvey's which is basically a process for the development of Law and Theory construction. It shows a method through which a scientist might proceed to solve a problem and how he might develop a solution for that problem and possibly a theory.

If one views the diagram (Figure 2), the following procedure will be noticed: (1) "Perceptual Experiences" these are the events as a problem to be solved. Obviously, we experience many things in a day; however, we can only be stimulated by a certain number of these events. The stimulation is due to our upbringing, or training (possibly as geographers), or society, and our physical limitations. As one begins to think about his perceptual experiences, he will place it somewhere into his "Image of the Real World" or into his perception of the world as he understands it.

HARVEY'S MODEL FOR SCIENTIFIC EXPLANATION

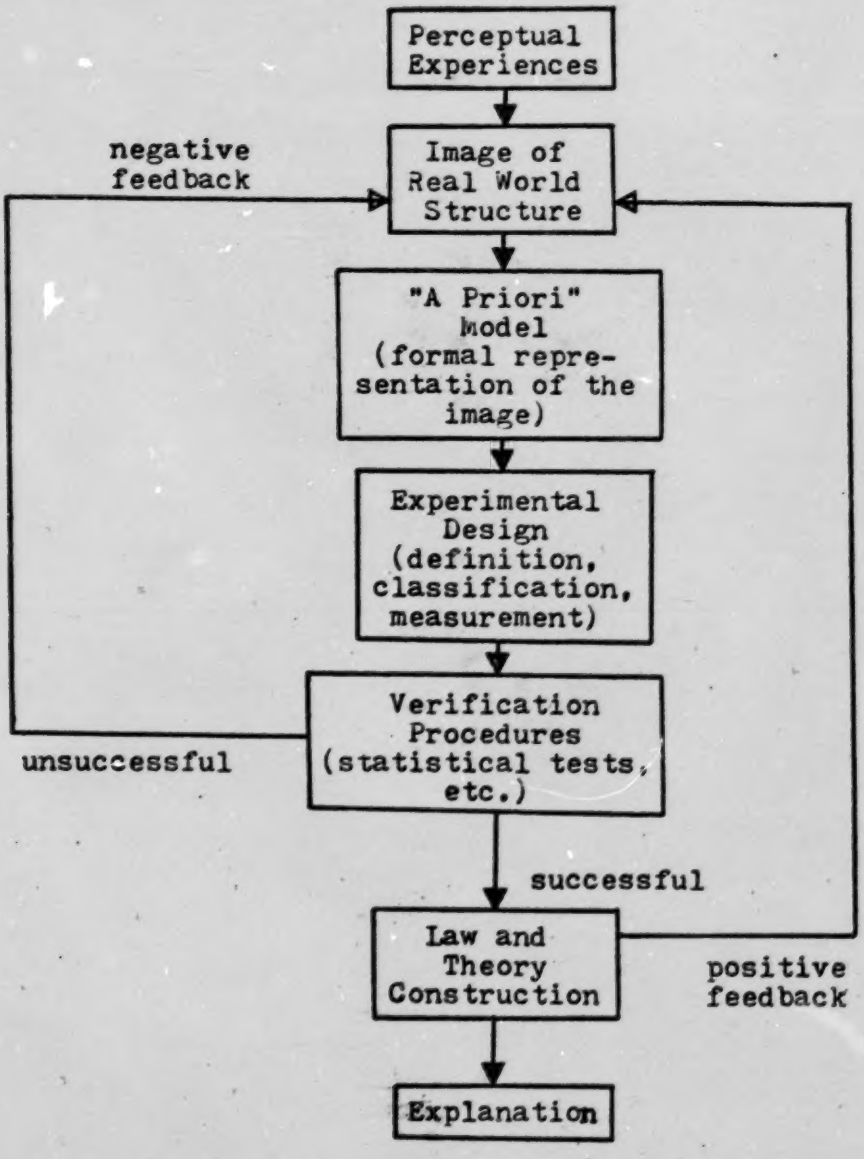


Fig. 2

This step will give order to the experience, but will not explain it. The next steps bring understanding to the experience. A person will simplify his experience (a Priori Model) to make it less difficult to explain and understand. He will then formulate a hypothesis about his experience. Next, he will define, classify, measure, tear his model (hypothesis) apart and put it back together again. Now he has a body of data concerning the model to look and to compare with his understanding of the real world. If it fits his understanding, then it becomes part of his "Image of the Real World." It will also become a law, something to believe and trust. It also can be used to relate to other problems. However, if it doesn't fit the image, if his hypothesis appears to be incorrect, he has two choices.

The first is to make a new hypothesis about his experience and to read the entire procedure once again. The other choice is to allow the new experience to alter his "Image of the Real World." The experience must be very powerful to make this alteration take place.

Finally, one arrives at Explanation, an acceptable understanding and meaning of the original experience. The explanation may come after many other experiences or after only one experience. On the other hand, it may never come at all. When and if Explanation does occur, it will mean internalization of the experience and it will cross over from the memory to part of a person's personality. In other words explanation will bring about a change in the person's attitude

toward himself and the world.

Harvey's model is basically a method for scientific explanation, but I will use it with some alterations as a problem-solving technique. Instead of having the class affected by a chance perceptual experience (Figure 3), the instructor presents a problem to the class. The scope and definition of the problem will be constructed by the students. Also the eventual solution to the problem will be formulated by the students. The instructor's role in the learning model is to prod, guide, and help students find their own solutions and new questions from the original problem. Harvey's approach provides an excellent model to view the process which students might follow to solve the problem.

How do Pattison's and Harvey's models relate to each other? The "to know" and the "to do" from Pattison have been placed around Harvey's model of scientific explanation with the alterations previously mentioned (Figure 3). The reason for placing Harvey's model into that of Pattison's is to derive a more functional model and to enable the instructor to give some form to the processes students might use to develop new questions and solutions to the problem originally given to them. The other alteration allows constant feedback rather than feedback in only two places. The implication is that the learning experience is constant; one part of the learning experience is never disconnected from other parts, and can only be reached via a previous section of the learning mode. Also, the feedback is no longer defined

COMBINATION AND ALTERATION
OF THE TWO MODELS INTO A NEW LEARNING MODEL

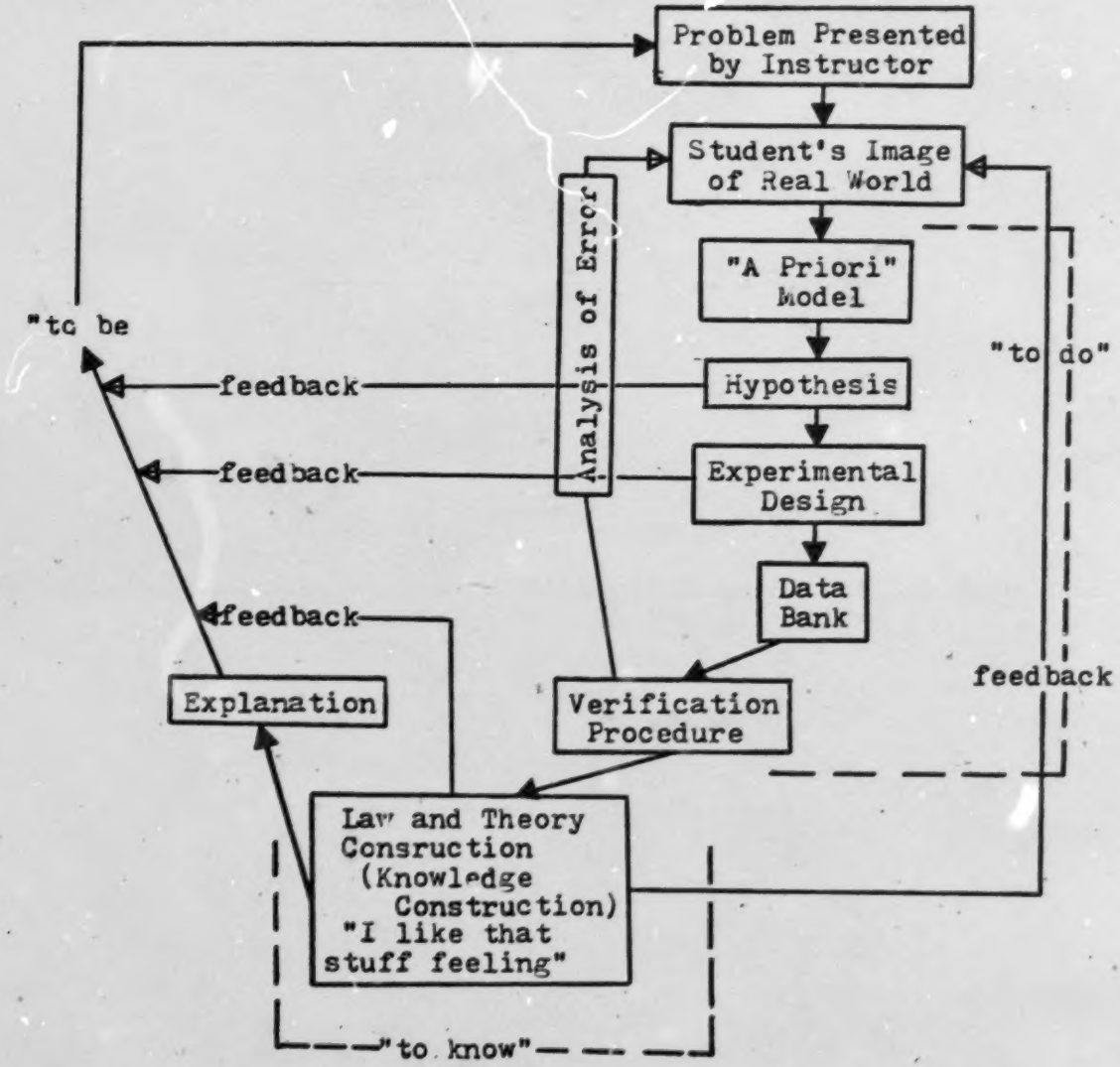


Fig. 3

in terms of positive or negative. The feedback that comes from an incorrect hypothesis, which is not proven by the "verification procedure", is identified as "analysis of error" which is then used to generate a new hypothesis to be tested.

The model is relatively simple. If one so wishes, he may call it a problem solving technique. The question of necessity that must be asked is, to what degree of effectiveness does it work, and if so, how effective is it in the classroom to promote the "learning experience". The only requirements necessary to implement the model described are students, an instructor, and a problem.

FOOTNOTES

[13]Preston James, "Introductory Geography: Topical or Regional," The Journal of Geography, LXVI (February, 1967), p. 52.

Richard E. Shallert, "Toward Structuring Geography," The Journal of Geography, LXVII (April, 1968), 211.

Saul Cohen, New Approaches in Introductory College Geography Courses, Publication no. 4 (Washington, D.C.: Association of American Geographers: 1967), pp. 1-37.

[14]William D. Pattison, "The Educational Purposes of Geography," in Evaluation in Geographic Education, ed. by Dana G. Kurfman (Belmont, Ca.: Fearon Pub., 1970), p. 25.

[15]David Harvey, Explanation in Geography, (London: Edward Arnold Pub., 1969), pp. 33-35.

[16]Charles E. Silberman, Crisis in the Classroom (New York: Random House, 1970), p. 8.

CHAPTER 3

THE ACTIVITY: A REGIONAL PROBLEM

During the past school year (1972-1973) an activity has been designed and tested within the context of the learning model. The activity involves one of geography's most basic and important concepts, the region. The basic problem presented to the class is how does one define a region.[17]

As has been stated previously (page 1), an instructor will invariably use an identifiable method of teaching. Whether the method is the lecture type, discussion type, or some other form, the method employed can be identified. The method to be employed in the thesis is a combination of models by Pattison and Harvey. In order to demonstrate how the learning model functions and why it is important, it will be used to describe how an introductory Geography class progresses through an activity designed with the learning model as the basis for the class. The activity was originally designed and tested as a problem-solving activity. This chapter will also introduce the concepts of general and specific goals, both of which are necessary in order to have a successful learning situation.

When one observes someone else teach, one should

consider the goals that the person is striving to attain within the confines of the learning model he is employing. Often one finds that the goals are too restrictive. For example, a common goal among some professors is to have 10 per cent of the class receive A's, 15 per cent receive B's, and 25 percent receive C's. Another example of restrictive goals is to have students memorize and thereby "learn" 75 per cent of the new vocabulary or concepts that are being presented in the course. The type of goals being proposed here are much different in form than those discussed above. There are two types: the first is a general goal and the second is a specific goal. The general goal can be a support for an entire course or a single activity. General goals are used as a support in the activity presented in the thesis. For example, the instructor may want the student, as a result of the course, to know himself or his fellow students better. Or the instructor may want to have the students discover that the subject being studied for example, Geography, is in reality much different than what it appears to be or what that student may have thought it to be.

In the activity, a general goal was for the class to begin to grasp one of Geography's most important concepts "the region." It was also hoped that by beginning to understand this concept, people in the class might better understand some of the problems the world, as a community, faces because of the impact of regions as well as the value

people place on "your region" and "my region." It was hoped that people would enjoy themselves and feel that Geography was important to them. To attain these "general goals" one has to devise a method to achieve them. The learning model which has been previously described was the method. Marshall McLuhan speaks of the medium being the message. For the learning situation being created this was definitely true.[18] Therefore, one other general goal was to have students recognize the value of the method; the learning model being employed to assist them in solving the problem.

The learning model will have other more restrictive goals built into it. These goals are identified as "specific goals." The specific goals are not as encompassing as the general goals, but without them in the activity the general goals could not be achieved. Some of the specific goals that were to be hopefully achieved were: (1) the understanding of scale, (2) the realization of the importance of maps, (3) how the environment places restrictions on man, but at the same time offers advantages to him. (4) the beginning of an understanding of part of the earth's surface, (5) the importance of water to man, (6) how transportation affects a region, and (7) where different factors are located and why. Some examples are fish, warm temperature, minerals, cattle, tourism, and deserts.

Obviously, there are many more specific goals than there are general goals. If one looks at each specific goal, it will be noticed that in some identifiable way each one

contributes to the achievement of a general goal. The specific goals are necessary to attain the general goals, but without the general goals the specific goals become meaningless. The general goals provide a uniting framework in which the specific goals can effectively operate.

The presentation of the activity in the classroom and in the thesis is in two sections. First, is the actual presentation of the activity and the use of the learning model. This section will show how students responded to the activity in an "ideal classroom". The second part of the presentation is a section to show how particular classes responded to different parts of the activity.

The activity is begun in the classroom by presenting a map to the class with a short introduction to the problem, (Figure 4). The opening statement is as follows: "You have been given a map and for the next few days, we will be working with this map. Our task is to discover and understand as much as we can about the area you see represented by the map. You will notice a legend, a scale, and a north arrow. These three elements are common to all maps in some form. You should recognize them as tools to be used for interpretation of the map."

A very quick explanation (not a lecture) of these three elements and their uses are now given to the class. Also all classes were given the definition of an intermittent stream, however, the various interpretations one might arrive at from the presence of an intermittent stream in an area were left to

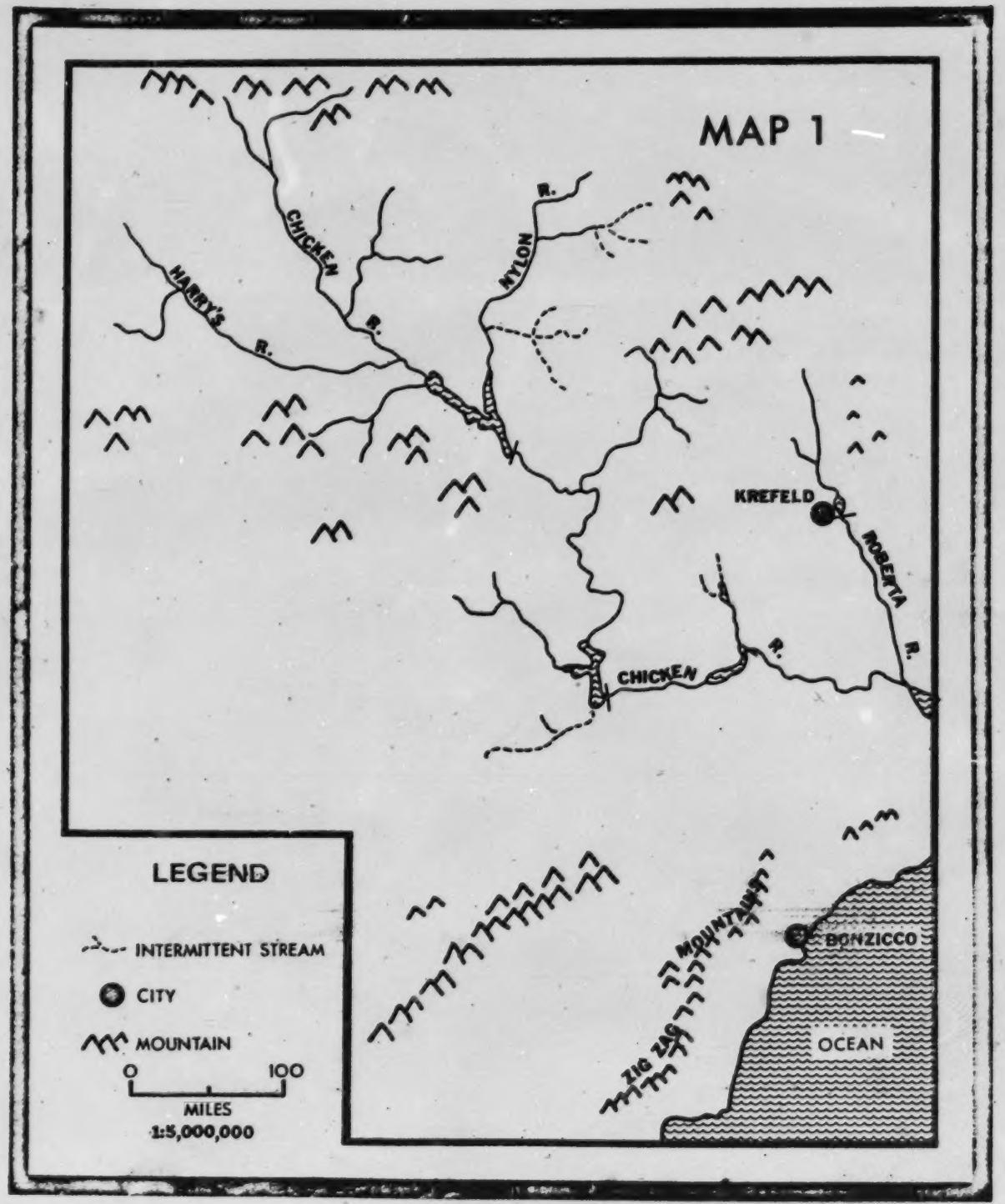

MAP 1
CHICKEN R.
HARRY'S R.
NYLON R.
KREFELD
ROBERTA R.
CHICKEN R.
BONZICCO
MOUNTAINS
ZIG ZAG
OCEAN
LEGEND
INTERMITTENT STREAM
CITY
MOUNTAIN
0
100
MILES
1:5,000,000

Fig. 4

the imagination of the students.

Following the introduction, these questions are asked. What can you (the class) tell me about this piece of earth which is represented by the map? Do you see anything here that should be mentioned? Everything is important.

The class again looks over the map with the explanations provided. The next questions are very simple and to the point. What do you see and what are your interpretations of what you see? Does what you perceive pull the area together or separate it?

The map is actually a disoriented map of the states of Arizona, New Mexico, Nevada, Utah and parts of Colorado, California, and a small part of the country of Mexico. This segment of the United States and Mexico has been chosen because of its wide variation of physical, cultural, and political features. It has much diversity in the types of transportation that are employed to move people and material, not only in the region but into and out of the region. There are many different types of people and a wide range of population from settlements of less than forty people to cities greater than a million people. These elements allow students who will analyze the area many approaches into the region. Not only are there many approaches, more importantly a student will not need a one year course in geomorphology or urban geography to recognize and analyze them. For example, the desert, the mountains, and the sea coast are evident. The student should not have a hard time ~~identifying~~ these; he is

not supposed to. It is much more important to have the student use time to analyze what he perceives.

Therefore, this part of the United States was chosen because of the diversity of geographic elements, physical and human, and because they are readily apparent. It should be remembered that when students analyze maps one and two, they are not analyzing the Southwest United States, they are analyzing the Chicken River and the area that surrounds it. It should also be remembered that over 90 per cent of the students do not recognize the area as a "real place" until the third map is given to them.

One might ask, what is the problem? The original problem is the map (Figure 4). The students have brought their "image of the real world" into the classroom. When the map is presented and the elements are explained, an a priori model begins to be formulated in the minds of the students. As the questions are asked, "What do you see, what are the implications of what you see," the students begin to hypothesize about what that piece of paper is in front of them and what it means.

As students begin to tell what the map means to them, a more definite picture begins to come into focus (Table 1).

If all these items can be listed (in one class, this was the case) in one day, and the questions being asked by the students seem relevant and show interest, then it can be said that the class is interested in the activity and probably will be able to do more to interpret the map and the unidentified

Table 1

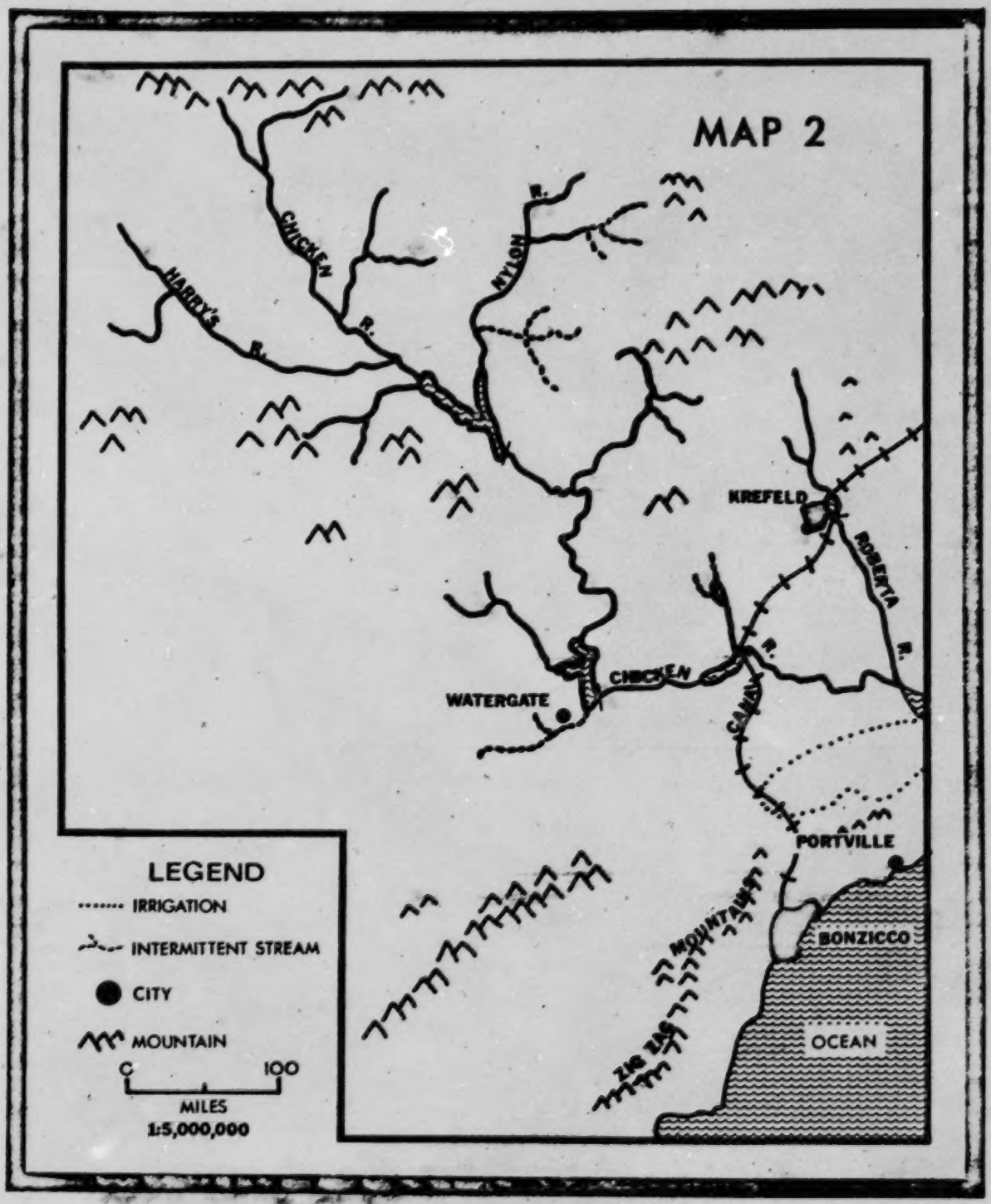
STUDENT RESPONSES TO MAP 1

Student's Recognition of Map Symbols	Student's Interpretations
Mountain Ranges	Presence of mining and forestry
Costal Range	Presence of mining and forestry
Plateau	Possible presence of cattle
Intermittent Streams	Area is probably dry
Dams	Hydroelectric power
Two Cities (Bonzicco and Krefeld)	Bonzicco larger than Krefeld. Bonzicco probably a port city
Area of map approximately 600,000 square miles	Large area, possibly as large as Europe
680 miles by 880 miles	
Length of Chicken River 800 miles	

region. The class has also taken the next step in the learning model. They are beginning to classify and measure, but little time has been allowed for verification that will occur later.

It should be noticed that most of the items perceived by students on day one were physical geography and that most of the interpretations relate to man's use of the physical environment. This closely correlates with Map 1. Students on day one are given little symbolic representation of man's presence in this area. There are two settlements, Krefeld and Bonzicco, and three dams. Why so little information about man? The reason is to have students concentrate on the physical environment first and to offer suggestions concerning man's use of the land and water. The instructor would like the students to consider the entire area as part of an ecosystem. It was felt that if the map was cluttered with a large amount of map symbolization on the first day, concerning man, students would miss much of what is present in the physical environment. Therefore, it was decided that Map 1 would have little that would indicate human presence in the area. Map 2 has more information about human settlement and alteration of the physical environment. Not only does Map 2 provide more information about human settlement, it also will verify or alter the inferences students have made about human settlement based on their perceptions of the physical environment.

Day two begins with the presentation of Map 2 (Figure 5). Many people would think that the students begin in the


MAP 2
HARRY'S R.
CHICKEN R.
NYLON R.
KREFELD
ROBERTA R.
CHICKEN R.
WATERGATE
CANAL
PORTVILLE
MOUNTAINS
BONZICCO
OCEAN
LEGEND
IRRIGATION
INTERMITTENT STREAM
CITY
MOUNTAIN
0
100
MILES
1:5,000,000

38
Fig. 5

learning model where they stopped at the end of day one (Figure 5). This is true in certain aspects of the activity, but false in other aspects.

The original problem of describing this portion of the surface of the earth by using the map as a tool to accomplish this task is still present. Another problem the students are dealing with is learning to read a map.

These two problems are a continuation from day one, but how the students accomplish the task has been altered. The students "Image of the Real World" has been altered by their previous days experience in the classroom. Two questions arise from this statement: 1) how do we know an alteration took place and 2) can it be measured? The answer to the first question can only be answered by the actions of the students during the second day of the activity. If their next questions can be answered with a yes, then alteration, to some degree, has occurred. Are the students questions concerning the map more relevant? Are the questions more to the point? Do they seem to be taking the facts they are gathering and turning them into explanation or interpretation of the map? Are the students daring to make wrong assertions about the map? Are they looking more to themselves for information than they are depending on the teacher? Are there any differences of opinion on certain elements of the map? Are they better map readers? Depending on the number of questions that can be answered positively one can determine whether or not alteration has taken place. I submit that alteration, no

matter how small an amount, will occur in every student.

As to whether or not a measure can be placed on the amount of alteration, I would answer in the negative. At present there is no reliable method to measure an alteration of a person's mind.

Because an alteration of the student's "Image of the Real World" has been changed through feedback, he must go back through the process of hypothesizing, experimental design, and further collection of data (Figure 3). Also on day two some verification of the data collected and interpretations made should begin to occur.

At the beginning of the second day, Map 2 (Figure 5) is presented to the class. This map has some important differences from Map 1. There are two more cities, population size differentiation is shown, a canal has been added, an indication of irrigation and the river has been emphasized to help students (if it hasn't already been recognized) realize that the river is important.

It was found that on day two students began to offer more specific and pertinent information. These perceptions were a result of three basic factors: 1) improved skills in reading a map, 2) more information on the map, and 3) the ability of the student to interpret the data being listed on the blackboard. Some of the information presented by students on day two is entered on Table 2.

Within the context of the original problem of defining a region, most students are still searching for a definition.

Table 2

STUDENT RESPONSES TO MAP 2

Student's Recognition of Map Symbols	Student's Interpretations
Bonzicco still the largest city	Most important city
Portsville is coast city	More important than either inland city
Watergate is an inland city	Main problem, water
Four dams	Used for sanitation, domestic water, irrigation, power, recreation and tourist attractions
Canals are present	Possibly shipping. More likely to be water supply for drinking, sanitation, irrigation
Plateau is present	Grazing and drought resistant crops
Mining in mountains	Nickel, zinc, gold, silver, uranium, coal
Irrigation	Expensive crops, type of crop not specifically listed

Some students hazard guesses (a good sign), for example, it is something one can place a boundary around, it is a homogenous area, or it is an area that has similar characteristics but is not completely the same throughout. The definitions are discussed, but no attempt is made at a conclusion. This would end the activity and many of the specific and general goals would not be achieved, therefore, making the activity and the model incomplete, and inferior.

What regions have been described? Have any regions been left out? These are questions that create an interesting list. Although students cannot define a region, they can list them (Table 3).

The last question from this section of day two is, What are the implications of these regions? This is interpreted, however, students perceive it. The students individually and as classes perceive the impression of the above regional list (Table 3) in many ways. Examples of students' interpretations of the regions can be seen in Table 4.

It is noticed for the first time that students are beginning to delimit areas with similar characteristics into definable groups. The appropriate time for the formal introduction (again not a lecture) of the "region" has now arrived. The introduction explains to the students that the region is a traditional geographic concept and it has aided geographers immensely in describing, analyzing, and understanding areas. It is also pointed out that regions have been described by the students while describing the map. Some examples given

Table 3

STUDENTS' REGIONS

Urban
Mountain
Agricultural
River
Dry (Desert)
Rural (Farm)
Economic
Recreational
Transportation
Power Networks (Electricity)

Table 4

STUDENTS' INTERPRETATIONS OF THE REGIONS

Urban	Urban problems, pollution, large population, politics, traffic jams, crime
Mountain	Mining, skiing, hiking, oil shale, barriers
River	Power, recreation, water (sanitation and drinking) tourist attraction

are, urban regions, mountainous regions, agricultural regions, and climatic regions. The questions asked here are, what is a region and what are the implications of the regions described? Also, are there any other regions which haven't been listed?

If the students enjoy the activity and it appears that more can be taken from maps one and two, I would suggest that the activity stretch into four days. As stated previously, the instructor may wish to use the activity three or four (one hour) class sessions. The reason for the flexibility of the time spent on the activity is to allow for the interest of the students and the consideration of other material and/or activities the instructor might wish to cover. The extra day could be used to further study and discuss the implications of all the data, including the new listing of regions.

One suggestion of how to use the extra day would be to have the class construct sketch maps showing the regions that they have described. This exercise appears to be a good way for students to visualize the concept of the region on paper. It also provides a way to evaluate the class and its progress after the activity has ended.

If the instructor and the class determine that everything that can be interpreted from maps one and two has been, then on day three, Map 3 is presented to the class with an accompanying fact sheet, a government publication on the Colorado River Basin, and some newspaper articles on current events surrounding the topic of water distribution in the region (Figure 6). The third map for most students is a total

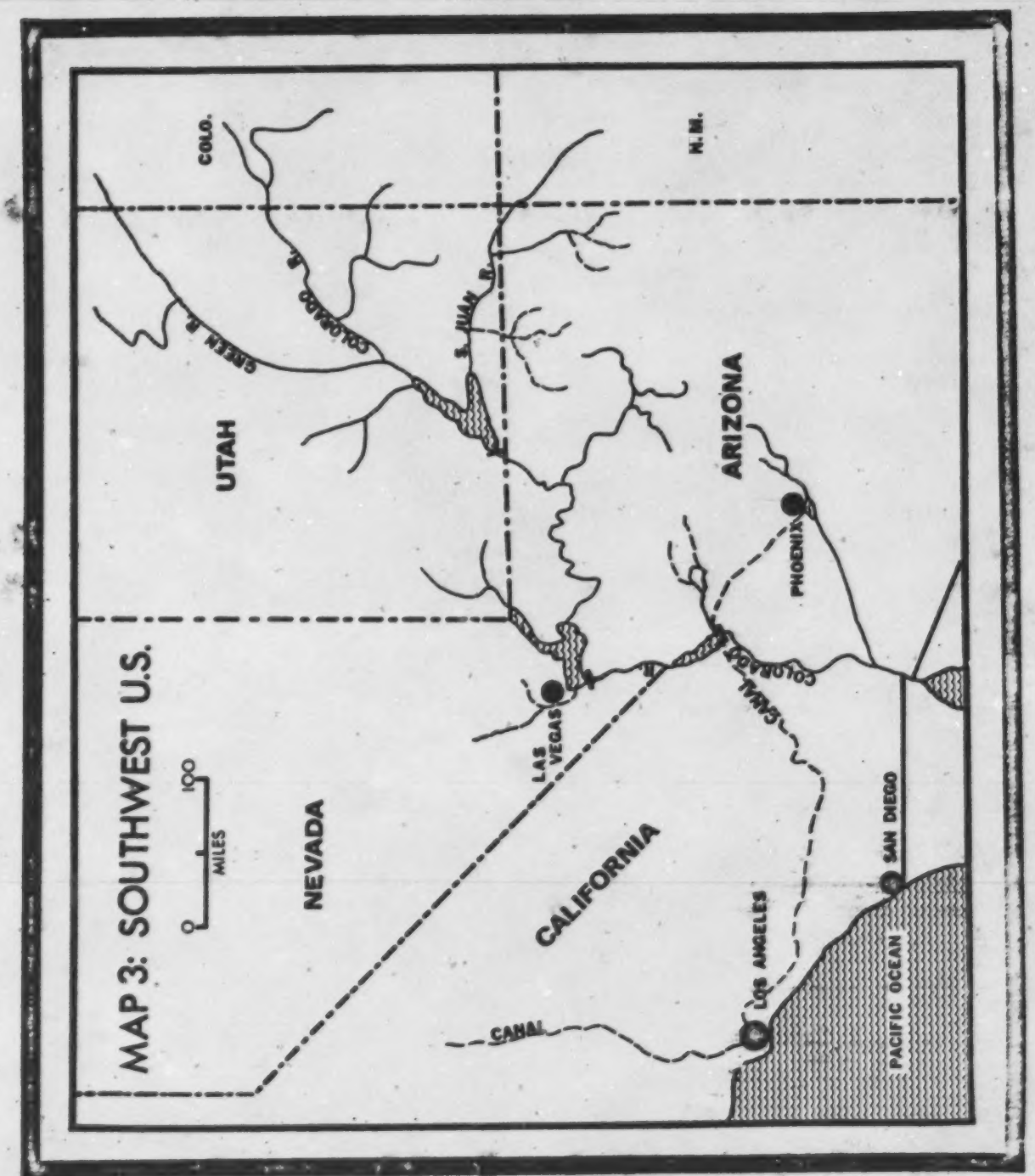

MAP 3: SOUTHWEST U.S.
0
100
MILES
COLO.
N.M.
UTAH
ARIZONA
NEVADA
CALIFORNIA
GREEN R.
COLORADO R.
S. JUAN R.
LAS VEGAS
PHOENIX
COLORADO R.
CANAL
LOS ANGELES
SAN DIEGO
PACIFIC OCEAN
CANAL

Fig. 6

surprise. In all four classes totaling approximately one hundred and fifty students, only five or six students guessed correctly the location of the map before the presentation of the third map. These guesses were conveniently ignored on days one and two but were acknowledged when map 3 was presented.

The most astonishing event that took place in the classroom is the realization by the students that they have successfully described the region without knowing where exactly it was located on the face of the earth. Of course, a new set of problems is presented to the class by the third map. Most of these problems concern the artificially constructed "regions" (the states) which have been imposed on the entire river region. The concern is with the historical as well as current regions that have existed in the area of the Colorado River. The procedure of the previous two days is followed again. A data bank is constructed from the information which is perceived to be in the map.

Obviously, the list now can be made almost endless. This is particularly true when people begin to add their own first-hand knowledge of the river region. The new problems that come from this new data, with the knowledge that the region is the Southwest United States, operates on four levels, the local, the state, the national, and the international levels. Most of the discussion on this day surrounded the topics of water distribution, transportation, agribusiness and urbanization. These topics are discussed at the levels

previously mentioned.

With the students discovery that the map is the Southwest, the whole mood and complexion of the discussion changes. We are no longer talking about the Chicken River region. Now it is the Southwest United States and the Colorado River region. Therefore, the students do not have to rely on the map as much as before nor do they have to rely on their insights into the data bank they have established. It is no longer a problem of interpreting a map or even defining a region. Now the students are looking at part of their country, and at times part of their own personal experience. Because the identification of the map so drastically changes the form of the original problem, it really becomes a whole new problem. Therefore, it is convienent and appropriate to stop the activity at this point.

Where does the class go from here? If the instructor wishes to continue with a unit on the Southwest United States that is perfectly alright. However, it would be just as appropriate and correct to look at some geographical situation in Tanzania or study Los Angeles. If some legitimate and meaningful connection (possibly a further discussion of the concept of the region in a different setting) can be made between the two activities it should be done.

It has been the objective of this chapter to provide an example of an activity that would show how the learning model can be applied in the classroom. The activity is not the most important aspect of this chapter, rather it is to give a

practical framework from which to more fully understand the learning model.

PART TWO

THE EXPERIENCE OF THE ACTIVITY IN THE CLASSROOM

The Chicken River Activity has been presented to six different classes. Their response has always been surprising and pleasing. The classes were composed of all White students on three occasions, all Black students on one occasion, a class of approximately half Black and half White students and a group of Chicano students.[19] Each time, the class response was different depending on who they were and where they lived, but there were also common elements in all the classes. The most prominent differences and common occurences will be discussed and some values will be given to them as they relate to the students "learning experience".

Although there was neither a formal formative or summative evaluation performed on any of the classes, there are many informed indicators an instructor may use to determine the value of an activity. Some examples of these indicators are:

1) The level of self-initiated student participation either through questions or comments.
2) The questions and comments that students make should be pertinent and in some way searching for their solution to the problem.
3) Students should challenge statements made by the instructor or other students and not allow poor judgment or misinterpretation stand as a component to a solution to the problem.
4) The level of instructor guided conversation as compared to student initiated conversation should decrease the longer the activity continues.
5) Students should be formulating solutions to the problem they have defined and this should become evident as activity progresses.

These can be used as an informal guide to evaluation.[20] The only real impediment to this type of evaluation is the ability of the instructor to recognize and face the truth, whether it is positive or negative.

The classes always began slowly. After the introduction, students were reluctant to begin building the data base. It took some prodding by the instructor to get students to volunteer facts. This might be attributed to shyness in some people, but it also can be perceived as a fear of "giving the wrong answer." Once students realize that all facts given will be put on the board and the "fear" is removed, the blackboard fills up quickly with facts.

Day one is almost entirely devoted to fact finding. The Wayne County Community College class, one Wayne State class, and the University of Colorado class placed a verbal interpretation to their facts. The other classes didn't have time to talk about their data base on day one. For this reason (no discussion about facts) day one for the instructor probably is the most tedious. He must introduce the activity, encourage students to respond, and at the end of day one, sum up very quickly the facts that have been listed.

Day two in all but one class (Wayne State University) was the most exciting day. It usually began with a few more facts being added to the data base. By the middle of day two, all classes were beginning to give interpretations to their data base. As a teacher, I found this part of the

problem the most exciting. Students were seeing concepts, ideas, more facts, and raising questions from what they had determined the map to be. There were guesses about the size of the seaports ranging from one hundred thousand to a million people and all the problem that go along with these populations. They knew that the seacoast cities were larger than the inland cities.

One of the most interesting conflicts came from students attempting to determine the use or uses of the canal that goes from the mountains to one of the seaports. The major debate is whether or not the canal is used for a water supply or transportation of goods and people. This problem is resolved when students realize that it would be much cheaper to transport people by plane and goods by train over a mountain range. Once the debate has ended, the resolution that the canal is for water supply only reinforces students earlier beliefs that water availibility and distribution is the major problem in this region.

Another debate that occurred in two classes (Wayne State University and Wayne County Community College) was about the type of crops grown in the irrigated area in the Southeast portion of the map. Some students thought apples, cherries, and pears were grown there; others insisted that oranges, grapefruits, and lemons were grown there. This debate in the Wayne County Community College class was particularly interesting because the instructor did not have to make a sound. The students not only agreed that the type of crops grown

were citrus fruits, but that because of the extent of the irrigated cropland, this must be a multi-million dollar business.

These two debates are good examples to me that students were thinking and caring about the problem. This plus the fact that their collective logic and facts were interpreting the maps without knowing where it was located, was most satisfying.

Most students still had a jumble of facts and concepts on the blackboard. They appeared to be talking about regions but not using the term. Only in one class (Wayne State University) was a discussion about the concept of region initiated and discussed by students without the guidance of the instructor. The more common event was to halt the class during day two and make an informal presentation of the "region" as a tool for analysis. The necessity of making this presentation has been a failure of the activity, however some students enjoy the break to organize their thoughts for a fresh assault on the problem.

In all classes, after the presentation of the region, students begin discussing regions and what they mean, still remaining within the context of the activity. One example of an actual list of regions presented by a class from the University of Colorado is seen in Table 5.

It was interesting to see the types of interpretations the Chicano students gave to regions they identified. Their knowledge of the Southwest as part of their personal experience

Table 5

STUDENTS' INTERPRETATIONS OF THE REGIONS
University of Colorado

Students' Regions	Students' Interpretations
Urban	barrios (segregation), traffic, pollution, nightclubs
Mountains	skiing, rich "Anglos", forests, escape
Desert	Indians, no water, cactus, hot
Farm	sugar beets, wheat, citrus fruit
Transportation	trains, buses

was obviously more real than those students who lived in Detroit. Their responses, except for some cultural differences (barrio as opposed to ghetto) strongly resembled the five groups in Detroit. Also, the incorrect orientation of the map disguised the Southwest United States so that most of the Chicano students (three out of forty asked if it was the Southwest) did not know where it was, and they had to rely on their ability to interpret the map as did the students in Detroit.

By the time students have performed some interpretation of the regions, day two has ended or day three has begun. As previously stated, day two was the most exciting day; as a consequence a longer period of time is spent with it.

The third day has three purposes: 1) to finish the interpretation of Map 2, 2) the presentation and discussion of Map 3, government publication, and current newspaper articles, and 3) processing and evaluating the previous days experience.

At the beginning of the third day there are usually a few more comments, but students know what a third map is coming and many want to get onto it rather than "milking" Maps 1 and 2. This is a pleasant feeling, not that they might be tired of Maps 1 and 2, but that they want the third map to gain a fuller understanding of the area.

One factor that must be noted here is that there are a small number of students (up to 10 per cent) in each class that don't care whether they receive Map 3 or even if they

received Map 1. This is a constant problem in most classes. I'm not sure how to solve it, only that if I could have found how to relate the map to the 10 per cent they probably would have been more involved in the activity. This is not as much a failure of the activity as it is a failure on my part to recognize students' needs and meet them.

I would estimate that 90 per cent of the students are totally surprised when they see Map 3. They find that as they look at the map they have identified and interpreted the map very close to reality. I would even say that some students gain satisfaction from solving the problem. I have always told them that I am pleased with the results.

The remainder of day three is a discussion of how their Chicken River relates to the Southwest United States and the problems of water distribution in the Southwest. This discussion has always been too brief. I would like to see students take the articles home, read them, and come back the following day to discuss what they have read. Unfortunately I have never had the opportunity to do this, but I hope to in the future.

The last fifteen to twenty minutes of day three is saved for verbal evaluation. This time is devoted to retracing the steps students followed through the activity and allow them to comment on the activity.

I have restated the problem for them and tried to tell them about the steps they have gone through (data building, hypothesizing, analysis or error) to arrive at their conclusions. I also mention the data base and the terms

they have put on the board that may have been new to them. Some examples of terms generated by students or labeled by me are: stream gradient, transportation networks, Elgin wheat, use of scale, xerophytic plants, and sprinkler and circular irrigation.

One question that was usually raised in this last fifteen minutes was, what is the "real definition" of a region. The answer to this relates very well to the problem because it is somewhat like asking, what is the real Southwest United States? My answer is that there is no one right definition to region, rather it depends on how you want to use the term. In the problem we were defining a region, but did we need to know it was the Southwest United States to define it? I believe we did not, and the fact that classes could relate one part of the region to the other without knowing its real location is proof of this fact.

As was stated in Part I, Chapter 3, this is the end of the activity because the problems and questions being raised have taken a different frame of reference. It is no longer the Chicken River, instead it is the Colorado River and a part of each student's life experience. This was especially true of the students in Colorado.

FOOTNOTES

[17]I wish to offer my deepest appreciation to Frank J. Calzonetti, fellow geographer and teacher, for his aid in developing the learning activity.

[18]H. Marshall McLuhan, Understanding Media (New York: McGraw-Hill, 1964).

[19]The classes that participated in the activity are identified as follows (per cents are approximations):

Wayne County Community College
One class of one hundred per cent Black students.

University of Colorado
One class of one hundred per cent Chicano students.
One class of one hundred per cent White students.

Wayne State University
Two classes of one hundred per cent White students.
One class of fifty per cent White and fifty per cent Black students.

[20]An example of a questionaire that might be employed to develop a summative evaluation is provided in Appendix A. It is an adaptation of an evaluation used in Professor B. Berry's Spatial Organization's class at the University of Chicago.

CHAPTER 4

AN ANALYSIS AND EVALUATION OF THE ACTIVITY, THE LEARNING MODEL, THE STUDENTS, AND THE INSTRUCTOR

For the students the "formal activity" may have ended at the point when a new activity is introduced or when they are asked to evaluate the activity. For the instructor, his job is really just beginning. Now that the activity is over and has an end, a final outcome, the instructor must (in terms of presenting the activity) scrutinize the activity and try to determine what the activity did or did not do.for the students. If it did do something, was that something "learning"? If learning took place, how much learning was there? Where does the model fit in the classroom? Where does the instructor fit in the classroom? Two other questions that should be considered are, did I meet my student's needs and were my needs (the instructor's) satisfied? These are the types of questions an instructor must attempt to answer honestly, for himself and his students.

Each of the above questions will be considered individually then they will be amalgamated into an overall evaluation of the activity and the model.

Question one: Did the students learn? The answer to this question depends entirely on one's definition of learning. For the activity, the "definition of learning" was implicit within the context of the model (Figure 3).

The learning model as a definition of learning cannot be separated into ten boxes with well defined edges. On the contrary, the model is one unit. It is a process (problem-solving process) that a person or student will go through again and again as long as he is alive. The more able a person is to deal with the model in terms of learning, I submit, a person will be a better learner for his experience.

If one can accept the model as a definition of learning, within the context of the activity, then understanding and interpreting the first question at least becomes manageable. As the student proceeded through the activity and the learning model, there had to come some time when the student decided whether or not he was or was not interested in the activity. At least, he would decide at what level of interest he would operate with the activity. Because there were no papers, exams, quizzes, questionaires, or evaluations to take or fill out, the student was under no formal pressure to "learn" the material. The only pressures he had to contend with was the interest of fellow students, the interest of the teacher, and the pressure that the activity exerted on him. This activity pressure was present in the form that it asked questions (What am I?), gave answers (map interpretation), and presented a set of problems to students. Therefore, I believe there was enough in the activity for people, if they desired, to become involved.

One might ask the question, if the student was interested, is that to say the student learned? The answer is simply,

no, but having the interest and curiosity of the students directed at the activity is a major step for learning to take place. After using the activity in six classes, it is relatively safe to say that few students were "turned off" by the activity and at least they reached the "I like that stuff" point (Figure 3).

If students were to stop at this point in the learning model, would the process be complete? As I stated before, the model is an inseparable unit therefore, the learning experience would be inferior and incomplete if the other half of the model was not given serious consideration. As Arthur Combs says, "There is a vast difference between knowing and behaving. Knowing comes from getting new information. Change in behavior is a people problem, the human side of the learning equation. It comes from the discovery of meanings."[21] This is what the left side of the learning model represents, a change in human behavior via the discovery of meanings.

Did the students "learn" meanings, did they receive explanation from the model, and lastly did a behavioral change occur? Hopefully, the concept of the region brought meaning and unified much of the knowledge that was accumulated by the students.

Until the concept of the region was formally introduced, there was little opportunity for many students to perceive a way to organize the data into a meaningful block of ideas. The regional concept as a general goal provided the conceptual framework for the ideas presented to come together and be interpreted.

The last question as to whether or not there was a behavioral change is the most difficult to answer. I suppose that one hopes that his teaching will make a difference to the student. One way to determine if behavioral change took place is to watch and listen to students as the class continues. Are they asking better questions, do they see, hear, and understand more? Most importantly, are the students better problem solvers? If we can HONESTLY answer these questions affirmatively, then one can say he recognizes some form of positive behavioral change which has taken place. However, it must also be recognized that to measure this change is an almost impossible task and to do so would take up more time than a teacher has in one semester of teaching.

Question two: The next question to be asked is, how much did the students learn? As was stated previously, many teachers consider the "how much" of learning the most important part of education. I cannot say that I am not concerned with this part of learning, but it is not as important to me as to many teachers. It is realized that Geography has much knowledge to offer people and that it can bring much understanding to them, but as a teacher is my first responsibility to my discipline (desemination of its body of knowledge) or is my first responsibility to my students (to help them learn)? My first concern is with the latter. Therefore, Geography will be used as a tool to help people become better learners. Hopefully, they will recognize the importance of Geography as a tool to understand the world.

I will do my best to have students realize this fact, but the students and their learning must come first.

The question therefore, of how much did they learn is of minor importance and is not a major concern of the evaluation. It is only considered in terms of the specific goals stated at the beginning of Chapter 3 (page 25). In terms of specific goals being met, a tremendous amount of knowledge was generated by the students. Whether they will remember this material is doubtful, but the material was only a stepping stone to the general goals. Therefore, whether or not they learned a large amount of data is again not important.

What is important is how they learned what they learned. It is important to help them to remember the methods they used to work and solve the problem which they also defined. Finally, it is important to have the student reinforce the methods and have the student be willing to take those problem solving techniques with him out from the classroom so they will be used again and again.

Question three: Where does the learning model fit in the classroom? The learning model is a problem solving process. It belongs in the classroom as does lecture, discussion, simulations, games, evaluation, the real world, or anything else that will enhance and strengthen a students' learning capabilities. Problem solving in the context of the learning model is particularly suited to the classroom because it allows students to become behaviorally involved as well as intellectually involved in a classroom activity. That is to

say students can be excited and challenged by learning. It becomes more meaningful and therefore will be an experience that will go beyond the confines of a one quarter course. Not only does it help students in the classroom, it will help them succeed outside the classroom and outside the academic setting. The learning model is applicable anywhere there is a problem to be solved and this situation will occur every day of a person's life.

One point that has been stressed is the unity of the learning model. Because of the unity and the importance of the left side of the model ("to be") serious consideration must be given as to where it fits in the classroom. If an instructor can have students reach the "I like that stuff" point, he has an infinitely better chance of having the students discover the explanation (meanings) of what they are attempting to learn rather than superficial facts. Also having a person reach the point of explanation means that the person not only has solved the problem in his terms, but the person understands the problem too. It means he has succeeded and this will mean his ability to solve a problem has been reinforced. If the original problem was challenging enough, solving the problem can only help a person to have a positive image of himself. This positive image and the ability to use the problem solving technique should influence a person to continue solving more problems and problems with a greater degree of difficulty.

If a student fails to solve the problem, to his

satisfaction, it is hoped that the student will still recognize the value of the learning experience and continue to 1) attempt to solve the problem, and 2) continue to attempt solving new problems. In short, the model should help people to learn to be better problem solvers therefore, learning to be better learners.

Question four: Where does the instructor fit in the classroom? The instructor's role as he relates to the learning model is not a traditional one. The traditional role being defined as having the instructor as the central focus for the students. In its place, the instructor becomes the initiator of the problem. After the presentation of the activity, the instructor cannot give the answer to the activity. The reason for this is simple, there is no one correct answer. The instructor's role is to help and advise students so that they can find their own answers.

In the beginning of the exercise the answers the students are searching for are usually facts. As the activity progresses the facts are put together into regions and with the instructor's interested guidance, the students understanding of the problem will be enhanced. The instructor's role is to help the students bring the material together so that it will have meaning and relevance for them.

The instructor's role does not end with the guidance and instruction of the students. He must also recognize the students as people. They all have varying needs and the instructor must make an effort to recognize these needs and

then attempt to meet them. He must help the students, not push nor pull them through the learning model and have them recognize it as a learning tool.

At the same time he is helping students through the activity, he has a responsibility to have the students recognize Geography as another way to view the world and its problems. It should also be part of the instructor's responsibility to show how and why Geography can solve problems, using the tools of geographers. If an instructor does not feel Geography can do the above, he has "no business" teaching the subject. A person who sees little or no relevance to the real world through the subject matter being taught, will inevitably fail as a teacher of that subject.

Question five: Were the students needs met and were the goals of the instructor met? When an instructor steps into the introductory classroom on the first day of class, he will be facing a number of students. He has in his mind a formalized knowledge of a subject, his informal knowledge, his life's experience, and some idea of what this class is to mean to him. Understandably, this is a tremendous amount of person to attempt to have contact with and understand. By the same reasoning, for each student the instructor faces on the first day of class, he must recognize that these "people" have the same tremendous amount of person within each of them. The only fact we might assume about these people is that they don't have the formalized knowledge which the instructor possesses. However, even this is at times a rash assumption.

It is relatively easy for an instructor to hide behind his formalized knowledge. "In almost any subject there is only a handful of important principles, the rest is all details. A teacher can't lecture very long about principles because there are only a few. But ah, the details, there are a million of them! They can be talked about forever."[22] Rather than teach details, an instructor must attempt to meet the needs of the students, have them become better learners, and somewhere in between meet his own objectives. No longer can the instructor be fact-oriented, he must become student-oriented.

The instructor's goals and the student's needs are inextricable. This situation should force an instructor to one solution to solve what is considered by many to be a dilemma. He must define his goals in terms of students' needs. It was just stated that in each person, there existed a tremendous amount of person. This statement is emphatically true. If so, how can an instructor hope to meet the needs of his students. The instructor must face reality and realize that his task of fulfilling all the needs of the students is an impossible one. His task is to attempt to define needs at three levels, 1) the needs of the individual students (the most important one), 2) the needs of the class, and 3) the needs of the instructor.

To define the needs of each individual student is the most difficult because many needs of students are not readily identifiable and there isn't enough time to effectively discuss

these matters with every student. It then becomes necessary to work on those needs which are identifiable and within the scope of the instructor's ability to help solve or fulfill the need. This may mean helping a student with writing a paper, public speaking, not being afraid to answer questions in class and be wrong, to attempt to do things in a group or alone, to have the student recognize his ability to contribute his abilities and talents to the situation, or perhaps even to listen to others more effectively. The list can go on and on. It is only limited by the instructor's ability to recognize the problems and then attempt to help a student solve the problem. The ability of a student to solve a personal problem is just as important as his solving or finding satisfactory answers, for himself, to the activity. If he recognizes the process he went through then the experience is doubly valuable because the problem solving technique would possibly be employed. It would probably be some form of the learning model.

The needs of the class are just as real as those of the individual. The most important need for a class is to have it recognize itself as one group, a single unit. Obviously, there are people in the class with varying abilities, varying interests, and varying levels of maturity. If a class, including the instructor, can recognize the positive side of all of these attributes and use them for the benefit of the entire group, the class will be a hundred times, infinitely, more powerful than if it operates as a group of individuals.

It therefore becomes the responsibility of the instructor to attempt to mould the individuals in the class into a unified group, to work together so that all may benefit from the class.

The final set of needs are those of the instructor. One might ask the question, what needs can an instructor have, he's the one with the answers. I would hope by now that it is realized that the instructor can never have all the answers and explanations.

What then are the instructor's needs? The most important need for an instructor is to recognize himself as a person and to recognize his students as people too. He must recognize the give and take that should exist between student and teacher. Not only must he recognize it, he must search for it. He must search for, give and take as a person first and a geographer second. In a general sense he must search for meanings, answers and new problems from students and return to them the same. In terms of Geography, he must search for the same things, but identify them for himself and help the students identify them as Geography. This is part of his responsibility of being a better geographer than has ever existed before. As Geography becomes more complex and as it's horizons are expanded, the instructor must not confine himself to the Geography that existed when he was a student.

Another need of the instructor is to be an example of his own model. "We teach students what is important by the things we require of them."[23] The concept that was ultimately important here was the learning model. It, therefore, becomes

most important for the instructor to emulate that process and it must be evident to the students that he is using the process. What this means is that the instructor should be adept at problem solving, therefore, he must be adept at being a learner and then be able to show it to others. My experience has been that my best instructors have been the most curious people and the most problem oriented people I have known, and they were able to transmit this feeling to me.

All of the questions in the evaluation should lead a person to at least one very important conclusion. Some people see the conclusion as new and radical, to some it is unpalatable, to others it is an old theory; but not applicable to the "real classroom". To a very small number it is an important setting in which learning can occur and be long-lasting. The conclusion is that everything that is done including classroom setting, learning model design, the activity being proposed, the role of the teacher, defining needs of students and teachers, designing general and specific goals, and evaluations must be done in order to allow the student to become the central focus of the learning situation.

The evaluation, if done honestly, will tell us whether or not we have allowed the student to become the central focus. If one finds that this is not the case then one must do either one of two things. The first is to attempt to change those things in the learning situation to make the student more of a focus. If this is too difficult, then the second thing to do is to scrap the old learning situation and design a new one that will place the student in the focus.

CHAPTER 5

CONCLUSIONS

This thesis has been a discussion about Geography and learning and teaching the subject. It was written because there is appearing today in the discipline of Geography and others, a new awareness that there are a variety of ideas that should be tried to help students become better learners. This thesis in its own way has helped to begin to fulfill this need.

The major idea presented has been a learning model for an introductory geography course. The model has attempted to make the student the focus of the learning situation. An activity has been offered only as an example to show how the learning model can operate either in an idealized or real classroom. This model has offered one mode of teaching to be employed as an example of an alternative approach to the lecture method or a content oriented classroom. There are many other alternatives. Some examples are: simulations, role-playing, student constructed courses, the undergraduate teaching assistant, and self-paced instruction. The idea of offering one alternative would hopefully lead others to recognize the worth of such an approach and the attempt to employ it in their classrooms. Whether or not this will occur, only time will tell.

An equally important problem is evaluation. How can an instructor be sure that students are learning in the classroom? I am not sure anyone can truly answer this question. There are intuitive feelings about peoples' reactions to experiences, but how to verbalize one's perceptions of these reactions to someone else and have that person understand what you mean appears to be a very real problem. Of course, there are formal evaluation forms, however there is no question that more needs to be done before instructors can be confident in evaluation instruments as a feedback tool for himself and a communications tool for others. Most evaluations concentrate in the "to know" and "to do" of learning but they are almost ineffective in measuring change in the "to be" of learning. This is a very personal opinion and recognizing the value that a solid evaluation might perform in all realms of education (learning), it is a constant concern. I therefore look forward to some research in geographic education being directed at evaluation.

A significant portion of this thesis has implicitly defined a person in a process. The person has been the author and the process has been learning. The composition of the thesis has put ideas, fears, and joys into focus for me. I recognize that each time I step into a classroom, I get a feeling of overwhelming responsibility. This responsibility takes the form of upholding my end of a timeless contract between student and teacher. <u>It is to help the student become a better learner</u>; to gain a better understanding of himself, others, and the physical

as well as the spiritual world. Who am I to attempt to complete such a task? Even though I consider Geography an excellent discipline to confront the task, I doubt its ability or mine to meet it. However, I am a learner as are students who I will come in contact with and I will accept the challenge to help those students as did my finest teachers. I believe the most important lession I have learned from my teachers is that if I can respect someone for what they are at all times, and I can earn the person's respect for me that I will learn from that person and he will learn from me. This may seem a simple lesson, but it is very difficult to learn and I am still learning it.

This thesis should be recognized for the idea it proposes and the challenge it presents to Geography. The idea is for the student to become the focus of education. This would necessitate a sacrifice in the amount of Geography taught, but never will it mean a sacrifice in the quality of Geography learned. I believe the latter to be infinitely more important. In order for this to be accomplished, elegant learning situations must be created to allow students to employ their total intellectual and emotional abilities. The challenge for geographers is to allow this situation to occur in our discipline, recognizing that it will help Geography, but ultimately it will enhance peoples' understanding of themselves, others, and the world.

FOOTNOTES

[21] Arthur W. Coombs, "Humanizing Education: The Person in the Process," in Humanizing Education, ed. by Robert Leeper (Washington, D.C.: Association for Supervision and Curriculum Development, 1967), p. 76.

[22] Ibid., p. 78

[23] Ibid., 78.

A P P E N D I X A

RIVER REGION ACTIVITY-ungraded evaluation form

1. The amount of class discussion in relation to lecturing was

_____too much
_____too little
_____just right

Comments:

2. How would you rate the reading selections?

very interesting ___:___:___:___:___very dull
too difficult___:___:___:___:___too easy
well chosen___:___:___:___:___poorly chosen
too many___:___:___:___:___too few

Comments:

3. How have you found the three excercises (maps)?

_____all interesting
_____all boring
_____ 1 2 3 interesting (circle the appropriate number/numbers)
_____all useful
_____all useless
_____ 1 2 3 useful (circle the appropriate number/numbers)

Comments:

4. How would you rate the discussion?

_____worthwhile
_____useful but took too much time
_____would rather have had a lecture
_____difficult to find where I belong and where I can contribute

Comments:

5. The handouts have been?

very helpful _____
a waste of money _____
unimportant one way or the other _____

Comments:

RIVER REGION ACTIVITY-ungraded evaluation (continued)

6. What parts of the activity did you feel were:

   useless

   redundant

   not new to you

   worthwhile

   exciting

7. What do you feel you have learned thus far that is of value to you (what specific information, ideas, theories, points, feelings, or attitudes)?

8. What topics, if any, would you like to have reviewed in class for better clarification?

9. What do you believe was the role of the instructor in the classroom?

10. How would you define a region (in your own words)?

11. What questions remain in your mind after completing this excercise?

12. Do you have any comments (general or specific) about any other aspects of the course, activity, or instructor?

RIVER REGION ACTIVITY-ungraded evaluation form (continued)

Place an X within the box that best describe your attitudes concerning Geography as it related to the activity just completed.

Geography is:

	50-50	
good		bad
applied		theoretical
stable		changeable
new		old
boring		interesting
important		unimportant
simple		complex
meaningless		meaningful
narrow		comprehensive
easy		difficult
important for the future		not important
untimely		timely
scientific		unscientific
deep		superficial
logical		illogical
to be thinking		to be memorized
cities		agriculture
pictures and places		graphs and charts
clear		unclear

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AUTOBIOGRAPHICAL STATEMENT

Robert Jack Czerniak

Date of Birth: 17 April 1949
Place of Birth: Detroit, Michigan

Robert Czerniak was born and raised in Detroit, Michigan. After a tedious educational experience, he graduated from Redford Union High School in 1967. In the summer of that year, Mr. Czerniak entered Wayne State University with the hopes and aspirations of becoming an historian.

In the Fall of 1969, he met Dr. R.J. Goodman who introduced him to the fascinating world of Geography. Since that time Mr. Czerniak has dedicated himself to becoming a professional geographer. Also for the first time in his college training, school became a very exciting place to be.

After graduating from Wayne State University in 1972 with a Bachelor of Arts degree with a major in Geography, he entered graduate school at the same school to continue his studies. It was at this time he met Dr. Robert C. Wright and was introduced to the joy and power that is possessed by a teacher. During the school year 1972-1973, Mr. Czerniak with other graduate students under Dr. Wright's carefully structured "unstructured learning situations" began to develop a sensitivity to people and how they can learn. Mr. Czerniak graduated from Wayne State University Graduate School in 1974 and is now pursuing a Ph.D. in Geography at the University of Colorado.

Mr. Czerniak is a member of the Association of American Geographers, National Council for Geographic Education, and the Highway Research Board.